

**I claim**

1. A stator structure with composite windings, comprising  
a stator ring divided into a plurality of equal units, each unit having a  
concave end on one end thereof and a convex end on another end thereof, the  
5 concave end having shape corresponding to that of the convex end such that  
adjacent equal units can be assembled through the assembling of the concave  
end and the convex end, the stator ring having a plurality of embedding  
grooves concavely formed on an inner side or an outer side thereof, the  
embedding grooves having equal pitch and number corresponding to a stator  
10 tooth number;

a plurality of stator teeth with arc-shaped tooth surface, each of the teeth  
having a tooth flank with a tooth tail, the tooth tail having shape corresponding  
to that of the embedding groove such that the tooth tail can be firmly embedded  
into the embedding groove;

15 a plurality of T-shaped insulating stages made of insulating material and  
having vertical post on which a winding is mounted; the vertical post having a  
hollow portion corresponding to the tooth flank of the tooth and the tooth flank  
of the tooth passing through and mounted on or detached from the hollow  
portion;

20 a plurality of windings made of lacquered copper wires composed of  
conductive coil wrapped by a winding tool or a winding formation tool, the  
winding having a hollow center and the vertical posts embedded into the  
hollow center.

2. The stator structure as in claim 1, wherein the stator is outer stator of

motor or electric generator; the stator ring is an outer ring of the stator; an inner end of the outer ring has a plurality of embedding grooves with number corresponding to the tooth number of the stator and concave toward an outer end of the outer ring.

5        3. The stator structure as in claim 1, wherein the stator is inner stator of motor or electric generator; the stator ring is inner ring of the stator; an outer end of the inner ring has a plurality of embedding grooves with number corresponding to the tooth number of the stator and concave toward an inner end of the inner ring.

10       4. The stator structure as in claim 1, wherein each stator is separated into a plurality of equal units; each unit having a concave end on one end thereof and a convex end on another end thereof, the width of the inner dent of the concave end being larger than the mouth of the concave end such that the structure assembled by one concave end and one convex end cannot be separated in  
15 lateral direction.

5. The stator structure as in claim 1, wherein each stator is separated into a plurality of equal units; each unit having a concave end on one end thereof and a convex end on another end thereof, the width of the inner dent of the concave end being smaller than or equal to the mouth of the concave end such that the  
20 structure assembled by one concave end and one convex end can be separated in lateral direction.

6. The stator structure as in claim 1, wherein the stator ring is integrally annulus shape.

7. The stator structure as in claim 1, wherein each the stator teeth has

closing ring on topside and bottom side thereof and having connecting end, the closing rings can be connected integrally by the connecting end, whereby a plurality of winding grooves, windings and insulating plates can be assembled on the stator teeth.

5        8. The stator structure as in claim 1, wherein the winding is the magnetic exciting winding of motor.

9. The stator structure as in claim 1, wherein the winding is the induced winding of generator.